

AMENDMENTS TO THE CLAIMS

1. (currently amended) A flushing and filtering system for an electroerosion machine, comprising:

a work tank configured to maintain a workpiece therein;

a first filtering stage for roughly filtering residue-containing machining liquid exiting from said work tank; and

a second filtering stage for finely filtering roughly-filtered machining liquid exiting from said first filtering stage;

a first fluid return path to said work tank, said first fluid return path comprising a high-pressure return path for introducing finely-filtered machining fluid through an electrode included in the electroerosion machine; and

a second fluid return path to said work tank, said second fluid return path introducing said finely-filtered machining fluid through a liquid adding inlet disposed at a lower portion of said work tank.

2. (cancelled)

3. (currently amended) The flushing and filtering system of claim 21, wherein said first filtering stage further comprises:

a rough filtering device for receiving residue-containing machining liquid exiting from said work tank;

a first filtering tank for holding said roughly-filtered machining liquid passed through said rough filtering device; and

a rough filtering pump for transferring said roughly-filtered machining liquid from said first filtering tank to said second filtering stage.

4. (original) The flushing and filtering system of claim 3, wherein said second filtering stage further comprises:

a fine filtering device for receiving said roughly-filtered machining liquid transferred from said first filtering tank;

a fine filtering tank for holding said finely-filtered machining liquid passed through said fine filtering device;

a high-pressure pump for supplying said finely filtered machining liquid through said first fluid return path; and

a liquid-adding pump for supplying said finely filtered machining liquid through said second fluid return path.

5. (currently amended) The flushing and filtering system of claim 21, wherein said first fluid return path is further configured so as to provide said finely filtered machining liquid to a guide bush, said guide bush having an end of said electrode disposed therethrough.

6. (currently amended) The flushing and filtering system of claim 21, wherein a bottom surface of said work tank is sloped so as to cause said residue-containing machining liquid to run toward an outlet proximate the bottom of said work tank.

7. (original) The flushing and filtering system of claim 1, wherein said machining liquid is a dielectric material.

8. (original) The flushing and filtering system of claim 1, wherein said machining liquid is an electrolyte material.

9. (original) The flushing and filtering system of claim 4, further comprising a pressure sensor within said first fluid return path.

10. (original) The flushing and filtering system of claim 1, wherein said work tank is configured to keep said workpiece completely submerged within said machining

fluid.

11. (original) The flushing and filtering system of claim 5, wherein work tank is further configured to spray machining fluid on exterior surfaces of said guide bush and said workpiece.

12. (original) The flushing and filtering system of claim 11, further comprising a nozzle configured for spraying machining fluid on said exterior surfaces of said guide bush and said workpiece, said nozzle included within said second fluid return path.

13. (currently amended) A method for flushing and filtering an electroerosion machine, comprising:

passing a residue-containing machining liquid through a first filtering stage for roughly filtering said residue-containing machining liquid, said residue-containing liquid exiting from a work tank configured to maintain a workpiece therein; and

passing roughly-filtered machining liquid exiting from said first filtering stage into a second filtering stage for fine filtering of said roughly-filtered machining liquid;

returning finely-filtered machining fluid to said work tank through a first fluid return path, said first fluid return path comprising a high-pressure return path for introducing said finely-filtered machining fluid through an electrode included in the electroerosion machine; and

returning said finely-filtered machining fluid to said work tank through a second fluid return path, said second fluid return path introducing said finely-filtered machining fluid through a liquid adding inlet disposed at a lower portion of said work tank.

14. (cancelled)

15. (currently amended) The method of claim ~~14~~13, wherein said first filtering stage further comprises:

a rough filtering device for receiving residue-containing machining liquid exiting from said work tank;

a first filtering tank for holding said roughly-filtered machining liquid passed through said rough filtering device; and

a rough filtering pump for transferring said roughly-filtered machining liquid from said first filtering tank to said second filtering stage.

16. (original) The method of claim 15, wherein said second filtering stage further comprises:

a fine filtering device for receiving said roughly-filtered machining liquid transferred from said first filtering tank;

a fine filtering tank for holding said finely-filtered machining liquid passed through said fine filtering device;

a high-pressure pump for supplying said finely filtered machining liquid through said first fluid return path; and

a liquid-adding pump for supplying said finely filtered machining liquid through said second fluid return path.

17. (currently amended) The method of claim ~~14~~13, wherein said first fluid return path is further configured so as to provide said finely filtered machining liquid to a guide bush, said guide bush having an end of said electrode disposed therethrough.

18. (currently amended) The method of claim ~~14~~13, wherein a bottom surface of said work tank is sloped so as to cause said residue-containing machining liquid to run toward an outlet proximate the bottom of said work tank.

19. (original) The method of claim 13, wherein the electroerosion machine includes a dielectric material passed through a gap between the tool electrode and workpiece.

20. (original) The method of claim 13, wherein the electroerosion machine includes an electrolyte passed through a gap between the tool electrode and workpiece.

21. (original) The method of claim 16, further comprising a pressure sensor within said first fluid return path.

22. (original) The method of claim 13, wherein said work tank is configured to keep said workpiece completely submerged within said machining fluid.

23. (original) The method of claim 13, wherein said work tank is further configured to spray machining fluid on exterior surfaces of said guide bush and said workpiece.

24. (original) The method of claim 23, further comprising spraying said machining fluid on said exterior surfaces of said guide bush and said workpiece through a nozzle, said nozzle included within said second fluid return path.